In the Claims

CLAIMS

1. (Previously presented) A method of joining together a multiplicity of optical elements on a basic body, comprising:

positioning a plurality of individual optical elements on a basic body; and

connecting the plurality of the individual optical elements to the basic body by a galvanoplastic joining technique.

2. (Original) The method as claimed in claim 1, wherein the basic body is galvanically formed.

3. (Original) The method as claimed in claim 1, wherein the optical elements comprise mirror facets.

4. (Previously presented) The method as claimed in claim 3, wherein the mirror facets are used for beam mixing and field imaging for an EUV lighting system.

5. (Withdrawn) A method of connecting a multiplicity of optical elements to a basic body, in particular for producing a faceted mirror, for example for beam mixing and field imaging for an EUV lighting system, the multiplicity of optical elements being aligned on an auxiliary structure and the optical elements subsequently being made to grow together galvanoplastically on their rear sides, forming a supporting structure as the basic body.

6. (Withdrawn) The method as claimed in claim 5, wherein the basic body is provided with reinforcements.

7. (Withdrawn) The method as claimed in claim 6, wherein the reinforcements are integrated galvanically.

8. (Withdrawn) The method as claimed in claim 7, wherein the body is designed in the form of a honeycomb structure.

9. (Withdrawn) The method as claimed in claim 5, wherein the basic body is provided with cooling channels.

10. (Withdrawn) The method as claimed in claim 9, wherein the cooling channels are formed in the galvanoplastic process by cores which are subsequently removed.

11. (Withdrawn) The method as claimed in claim 9, wherein the cooling channels are formed by placed-in tubes, which grow in during the galvanoplastic process.

12. (Withdrawn) The method as claimed in claim 5, wherein the auxiliary structure is formed by a plurality of parts with spacers or positioners lying in between.

13. (Withdrawn) The method as claimed in claim 5, wherein the optical elements on the basic body combine into a faceted mirror.

14. (Withdrawn) The method as claimed in claim 13, wherein the faceted mirror is used for beam mixing and field imaging for an EUV lighting system.

15. (Withdrawn) A faceted mirror for beam mixing and field imaging for a lighting system, a multiplicity of mirror elements being arranged on a basic body, wherein the mirror elements are connected to the basic body by a galvanic joining technique.

16. (Withdrawn) The faceted mirror as claimed in claim 15, wherein the basic body is galvanically formed.

17. (Withdrawn) The faceted mirror as claimed in claim 15, wherein the mirror elements are provided on their rear sides with a supporting structure as the basic body, with which they are galvanoplastically connected.

18. (Withdrawn) The faceted mirror as claimed in claim 17, wherein the body is provided with reinforcements.

19. (Withdrawn) The faceted mirror as claimed in claim 18, wherein the reinforcements are produced galvanoplastically.

20. (Withdrawn) The faceted mirror as claimed in claim 19, wherein the reinforcements are made in the form of a honeycomb structure.

21. (Withdrawn) The faceted mirror as claimed in claim 17, wherein the body is provided with cooling channels.

22. (Previously presented) The method as claimed in claim 1 wherein the positioning comprises providing a number of the optical elements ranging from 200 to 300 optical elements.

23. (Previously presented) The method as claimed in claim 3 further comprising polishing the mirror facets to a surface quality ranging from 0.2 to 0.3 nm RMS.

24. (Previously presented) The method as claimed in claim 3 wherein the mirror facets comprise copper.

25. (Previously presented) The method as claimed in claim 3 wherein the mirror facets comprise copper coated with nickel.

26. (New) The method as claimed in claim 1, wherein the individual optical elements comprise lenses.

27. (New) The method as claimed in claim 1, wherein the plurality of the individual optical elements comprise lens arrays.

28. (New) The method as claimed in claim 4, wherein the EUV lighting system comprises a light source, and further comprising directing the light source onto the mirror facets and to a reticle.

29. (New) The method as claimed in claim 1, wherein the connecting of the plurality of the individual optical elements form a single monolithic structure.

30. (New) The method as claimed in claim 1, further comprising providing the plurality of the individual optical elements as substantially identical optical elements with regard to optical properties.